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 EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 27

Application Number: 08/715,724

Filing Date: September 19, 1996

Appellant(s): Wilson et al.

MAILED

Karen Dellerman
For Appellant

JAN 16 2001

GROUP 1700

EXAMINER'S ANSWER

This is in response to appellant's brief on appeal filed November 1, 2000.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

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A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

The appellant's statement in the brief that certain claims do not stand or fall together is disagreed with. Claims 9 and 10 have been omitted from said statement. Since claims 9 and 10 depend from claim 3, said claims stand or fall together with claim 3. Thus, the grouping of the pending claims are Claims 4, 14, 15, 17, 20, and 21 and Claims 2, 3, 9, and 10.

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(8) *ClaimsAppealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,447,794

LIN--

09-05-1995

5,468,555

LIJTEŃ et al.

11-21-1995

(10) *Grounds of Rejection*

The following ground(s) of rejection are applicable to the appealed claims:

Claims 2-4, 9, 10, 14, 15, 17, 20, and 21 are rejected under 35 USC 103(a) as being obvious over the cited Lin patent in view of the cited Lijten patent.

Independent claim 20 is drawn to a carpet comprising a backing material and stain resistant sheath/core bicomponent face fibers with non-round cross-sections affixed to said backing material. The face fibers comprise a core of a first polyamide component and a sheath of a second polyamide component comprising about 3 to 9 % of the fiber and substantially or completely covering said core. Claim 20 further limits the second polyamide component to being stain resistant polyamides according to the claimed formulas, which encompass nylon 6,10, nylon 6,12, nylon 11, and nylon 12. Claim 20 also limits the fiber to having a specified "percent steam heatsetting shrinkage value" and "staining depth."

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Claim 21 limits the first polyamide component to nylon 6 or nylon 6,6. Claims 2 and 3 limit the sheath polyamide to having a specified concentration of titratable amino end-groups, while claims 9 and 10 limit the amino end-group concentration of the core polyamide. Claim 4 limits the sheath polyamide to being sulfonate-free. Claims 14 and 15 limit the fiber to having a multilobal and trilobal cross-sections, respectively. Claim 17 limits further limits the "staining depth."

The Lin patent is directed to sheath-core polyamide filaments useful in carpet constructions that are resistant to staining by coffee and acid dyes common in beverages. The sheath component is comprised of nylon 6,12, nylon 12, nylon 6,10, or nylon 11 and the core may be nylon 6,6, nylon 6, or copolymers thereof. (Title; Abstract; and col. 1, lines 5-11 and 42-64). The weight ratio of the sheath component to the core component is in the range of 10:90 to 80:20 (col. 1, lines 35-42).

Thus, Lin teaches the limitations of Applicant's independent claim with the exception that the sheath component ranges from about 3 to 9%, the "percent steam heatsetting shrinkage values," the "staining depth," and the non-round cross-section. Additionally, Lin teaches the limitations of the dependent claims with the exception of the titratable amine end-groups amounts.

The staining tests provided by Lin are not performed in the same manner as those of the present invention. As such, it is not possible to compare the values of staining given by Lin with those instantly claimed. Also, Lin does not discuss "percent steam heatsetting

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shrinkage values" or amine end-group concentration of the sheath and core components. However, the mere recitation of properties absent in the prior art does not necessarily predicate patentability especially where, as here, the prior art teaches Applicant's preferred embodiment (i.e., a carpet made from a sheath-core filament with a polyamide 6,12 or 6,10 sheath and a polyamide 6 or 6,6 core). Since the chemistry and structure of the carpet claimed is clearly met by the Lin patent, the Examiner finds the properties claimed in addition thereto to be inherent to the carpets of Lin. This reasoning is based on the fact that the properties claimed are dependent upon the materials from which they are made and the same materials are used for Applicant's preferred embodiments as for Lin's preferred embodiments.

Lin does not discuss filament cross-sectional shape. One example does mention a round cross-sectional shape. However, it is well-known in the art to have non-round cross-sectional shapes, particularly trilobal cross-sections, even in bicomponent carpet filaments for the purposes of increasing bulk among other properties. For example, Lijten teaches the use of trilobal filaments are desirable in carpet fibers (col. 3, lines 10-21). Hence, it would have been instantly obvious to one of ordinary skill in the art to practice the conceptual invention of Lin with trilobal filaments, motivated by the expectation of providing a higher quality carpet due to increased yarn bulk and other effects.

With respect to the limitation that the sheath component comprise 3-9% of the fiber, the Lijten patent is referenced. Lijten is directed to yarns formed from sheath-core filaments that are designed to have a uniform sheath which permits the use of lower sheath volumes

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(abstract). Lijten teaches that even as little as 7% sheath or less is effective following their techniques (col. 2, lines 15-56). Additionally, Lijten discloses that nylon sheath/nylon core combinations are suited for the invention (col. 3, lines 26-62) and that the inventive filaments can be used as face fibers for carpets (col. 3, lines 13-18). Furthermore, Lijten teaches that the right choice for the sheath material significantly improves the flammability and/or soiling characteristic of the carpets made from the inventive filaments (col. 4, lines 21-25).

Thus, one skilled in the art in possession of both Lin and Lijten would have been motivated to modify the Lin fibers by applying the Lijten techniques of producing more uniform sheaths. Specific motivation includes obtaining improved results with lesser amount of sheath component, and hence, cost of sheath component without incurring any adverse effects on performance. Additionally, Lijten teaches another benefit to be improved dyeability of the bicomponent fiber when the core component is poorly dyeable (col. 4, lines 12-16). Furthermore, it is argued that Applicant has not established criticality for the end-point of 9% sheath component. Without a showing of criticality or unexpected results, the claimed invention is not patentable distinguishable from the prior art of record.

Therefore, Applicant's pending claims are rejected as being obvious over the cited Lin patent in view of the cited Lijten patent.

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(11) Response to Argument

Applicant traverses the above rejection by asserting lack of proper motivation to combine the references (Brief, page 9, lines 5-6). Specifically, Applicant traverses the ‘improved dyeability’ motivation asserted by the Examiner (Brief, page 9, line 6-page 10, line 3). In response, it is asserted that Lijten’s benefit of ‘improved dyeability’ is descriptive of a core material which is difficult to dye and which is covered with a thin sheath. The presence of said sheath allows for a more easily dyed filament than if the filament was comprised of just the core material. This is not contrary to Applicant’s objective of stain resistant fibers. In fact, Lijten continues to clearly state that the choice of sheath component can improve the stain resistance of the fiber (col. 4, lines 21-25). The difference between dyeing and staining is that dyeing is intentional, while staining is not. Additionally, it is asserted that the choice of a particular sheath material can create a filament which is *dyeable* without being *stainable* by acid dyes or coffee. Hence, the objectives of improving dyeability and preventing staining are not necessarily diametrically opposed, as Applicant asserts.

In response to Applicant’s arguments regarding the economic advantages (Brief, page 10, line 4-page 11, line 18), the following comments are made. First, the Examiner maintains the contention that use of a lesser amount of sheath component is an economical benefit. Specifically, it is cheaper to use less of a material than more of it. Secondly, it is asserted that even if the apparatus for manufacturing the bicomponent fiber with a low sheath component is more expensive than conventional apparatus, this initial cost would eventually be

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compensated for by the use of less material. (It is noted that the process according to Lijten is a conventional melt spinning process with the sheath component being subjected to a flow resistance provided by a wire mesh flow resistor (col. 4, lines 37-62). Hence, the apparatus is not significantly different from conventional apparatus and would, in all likelihood, not be much more expensive than said conventional apparatus.)

With respect to Applicant's assertion that Lin suggests increasing the ratio of the sheath component results in improved performance (Brief, page 10, lines 15-18), it is asserted that said improved performance is descriptive of the increased protection of the stainable core component (nylon 6,6) by the non-stainable sheath component (nylon 6,12) (Lin, col. 6, lines 15-24). Lijten teaches how to protect a stainable core by employing a lesser amount of a non-stainable sheath. Thus, the objectives of Lin can still be achieved when modified according to Lijten. Additionally, it is asserted that the Lin filament modified according to Lijten would provide a core component uniformly and completely covered, which lends more protection from staining than Applicant's claim limitation of 'substantially covering said core.'

With respect to Applicant's traversal of the rejection of claims 2 and 3 (Brief, page 12, lines 5-10), it is reiterated that the same materials are used for Applicant's preferred embodiments as for Lin's preferred embodiments. Hence, the claimed number of amine end-groups is deemed to be inherent to the disclosed polyamides.

Therefore, Applicant's arguments have been found unpersuasive and the above rejection is hereby maintained.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Appeal Conference

Fm - 7/11/01

BC - 7/11/01



CHERYL JUSKA
PATENT EXAMINER

cj

January 16, 2001